SMC Networks

USER GUIDE

EZ Switch™ 10/100
16-Port Unmanaged Fast Ethernet PoE Switch

SMCFS1601P

EZ Switch™ 10/100 User Guide

From SMC's EZ line of low-cost workgroup LAN solutions

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COMPLIANCES AND SAFETY STATEMENTS

FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user’s authority to operate the equipment.

CE MARK DECLARATION OF CONFORMANCE FOR EMI AND SAFETY (EEC)

CE

This information technology equipment complies with the requirements of the Council Directive 89/336/EEC on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility and 73/23/EEC for electrical equipment used within certain voltage limits and the Amendment Directive 93/68/EEC. For the evaluation of the compliance with these Directives, the following standards were applied:

RFI Emission:	◆ Limit according to EN 55022:2006+A1:2007
	◆ Limit for harmonic current emission according to EN 61000-3-2:2006+A2:2009
	◆ Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3:2008
Immunity:	◆ Product family standard according to EN 55024:2010
	◆ Electrostatic Discharge according to EN55024 &4.2.1
	◆ Radio-frequency electromagnetic field according to EN55024 &4.2.3.1
	◆ Electrical fast trsnsient/burst according to EN55024 &4.2.2
	◆ Surge immunity test according to EN55024 &4.2.5
	◆ Immunity to conducted disturbances, Induced by radio-frequency fields: EN55024 &4.2.3.2
	◆ Power frequency magnetic field immunity test according to EN55024 &4.2.4
	◆ Voltage dips, short interruptions and voltage variations immunity test according to EN55024 &4.2.6
LVD:	◆ EN60950-1:2006+A11:2009+A1:2010+A12:2011

INDUSTRY CANADA - CLASS A

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

PLEASE READ THE FOLLOWING SAFETY INFORMATION CAREFULLY BEFORE INSTALLING THE SWITCH:

WARNING: Installation and removal of the unit must be carried out by qualified personnel only.

- This guide is intended for use by network administrators who are responsible for setting up and installing network equipment; consequently it assumes a basic working knowledge of LANs (Local Area Networks).
- The unit must be connected to an earthed (grounded) outlet to comply with international safety standards.
- Do not connect unit to an A.C outlet (power supply) without an earth (ground) connection.
- The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN 60320/IEC 320 appliance inlet.
- The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.
- This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.

SAFETY PRECAUTIONS

Read the following information carefully before operating the device. Please follow the following precaution items to protect the device from risks and damage caused by fire and electric power:

- Use the power adapter that is included with the device package.
- Pay attention to the power load of the outlet or prolonged lines. An overburdened power outlet or damaged cords and plugs may cause electric shock or fire. Check the power cords regularly, if you find any damage, replace it at once.
- Proper space for heat dissipation is necessary to avoid any damage caused by device overheating. The ventilation holes on the device are designed for heat dissipation to ensure that the device works normally. Do not cover these ventilation holes.
- Do not put this device close to a place where a heat source exits or high temperature occurs. Avoid placing the device in direct sunshine.
- Do not put this device close to a place which is damp or wet. Do not spill any fluid on this device.
- Please follow the instructions in the user manual/quick install guide carefully to connect the device to your PC or other electronic product. Any invalid connection may cause a power or fire risk.
- Do not place this device on an unstable surface or support.

PRÉCAUTIONS DE SÉCURITÉ

Lisez attentivement les informations suivantes avant d'utiliser votre appareil. Respectez toutes les précautions afin de protéger l'appareil des risques et dégâts provoqués par un incendie et l'alimentation électrique :

- Utilisez exclusivement l'adaptateur d'alimentation fourni avec cet appareil.
- Faites attention à la puissance de charge de la prise de courant ou des rallonges électriques. Une prise surchargée ou des cordons et des fiches endommagés peuvent provoquer une électrocution ou un incendie. Vérifiez régulièrement votre câble électrique. Si vous constatiez le moindre défaut, remplacez-le immédiatement.
- Il est primordial de laisser suffisamment d'espace autour de l'appareil pour permettre la dissipation de la chaleur et éviter les dégâts provoqués par une

surchauffe de l'appareil. Les orifices de ventilation de l'appareil sont conçus pour permettre la dissipation thermique et garantir le bon fonctionnement de l'appareil. Ne couvrez jamais ces orifices.

- Ne placez pas cet appareil à proximité d'une source de chaleur ou dans un endroit exposé à des températures élevées. Evitez également de l'exposer à la lumière directe du soleil.

- Ne placez pas cet appareil à proximité d'un lieu humide ou mouillé. Prenez garde à ne renverser aucun liquide sur cet appareil.

- Merci de suivre les instructions du manuel d'utilisateur / guide d'installation rapide attentivement pour connecter l'appareil à votre PC ou à tout autre produit électronique. Toute connexion non valide peut provoquer un problème électrique ou un risque d'incendie.

- Ne placez pas cet appareil sur une surface ou un support instable.

SICHERHEITSMAßNAHMEN

Lesen Sie vor der Inbetriebnahme des Gerätes aufmerksam die nachstehenden Informationen. Bitte befolgen Sie die nachstehenden Sicherheitsmaßnahmen, damit das Gerät nicht beschädigt wird oder Gefahren durch Brand oder elektrische Energie entstehen:

- Verwenden Sie nur das beim Gerät mitgelieferte Netzteil.

- Achten Sie auf die Last der Steckdose oder des Verlängerungskabels. Eine überlastete Steckdose oder beschädigte Kabel und Stecker können Stromschläge und Brand verursachen. Prüfen Sie die Netzkabel regelmäßig. Ersetzen Sie sie umgehend, falls sie beschädigt sind.

- Achten Sie zur Vermeidung von Geräteschäden aufgrund von Überhitzung darauf, dass genügend Freiraum zur Wärmeabfuhr vorhanden ist. Die Belüftungsöffnungen am Gerät dienen der Wärmeabfuhr und damit der Gewährleistung eines normalen Gerätebetriebs. Decken Sie diese Belüftungsöffnungen nicht ab.

- Stellen Sie dieses Gerät nicht in der Nähe von Wärmequellen oder an Orten mit hohen Temperaturen auf. Platzieren Sie das Gerät nicht im direkten Sonnenlicht.

- Stellen Sie dieses Gerät nicht an feuchten oder nassen Orten auf. Achten Sie darauf, keine Flüssigkeiten über dem Gerät zu verschütten.

- Befolgen Sie die Hinweise im Benutzerhandbuch (bzw. in der Kurzanleitung) zum Anschluß des Gerätes an einen PC oder ein anderes Elektrogerät. Jegliche unzulässige Verbindung birgt die Gefahr von Stromschlägen und Brandgefahr.

- Platzieren Sie dieses Gerät nicht auf einer instabilen Oberfläche oder Halterung.

PRECAUCIONES DE SEGURIDAD

Lea la siguiente información detenidamente antes de utilizar el dispositivo. Siga las indicaciones de precaución que se mencionan a continuación para proteger el dispositivo contra riesgos y daños causados por el fuego y la energía eléctrica:

- Utilice el adaptador de alimentación incluido en el paquete del dispositivo.

- Preste atención a la carga de potencia de la toma de corriente o de los alargadores. Una toma de corriente sobrecargada o líneas y enchufes dañados pueden provocar descargas eléctricas o un incendio. Compruebe los cables de alimentación con cierta frecuencia. Si detecta algún daño, reemplácelos inmediatamente.

- Deje un espacio adecuado para que se disipe el calor y evitar así cualquier daño en el dispositivo causado por sobrecalentamiento. Los orificios de ventilación del dispositivo están diseñados para disipar el calor y garantizar que dicho dispositivo funciona con normalidad. No tape estos orificios de ventilación.

- No coloque este dispositivo cerca de un lugar donde haya una fuente de calor o temperaturas elevadas. Evite exponer el dispositivo a la luz solar directa.

- No coloque este dispositivo junto a un lugar húmedo o mojado. No derrame ningún fluido sobre el dispositivo.

- Por favor, siga cuidadosamente las instrucciones que figuran en el manual/ guía de instalación rápida para conectar el dispositivo a su PC o a cualquier otro producto electrónico. Cualquier conexión no válida podría causar riesgo de descarga o de incendio.

- No coloque este dispositivo en una superficie o soporte inestable.

- Precauções de Segurança

- Leia atentamente as seguintes informações antes de utilizar o dispositivo. Respeite as seguintes indicações de segurança para proteger o dispositivo contra riscos e danos causados por fogo e energia eléctrica:

- Utilize o transformador incluído na embalagem do dispositivo.

- Respeite a potência da tomada eléctrica e das extensões. Uma tomada eléctrica sobrecarregada ou cabos e fichas danificadas podem causar choques eléctricos ou fogo. Verifique regularmente os cabos de alimentação. Caso algum se encontre danificado, substitua-o imediatamente.

- É necessário deixar algum espaço livre em volta do dispositivo para dissipação de calor, de forma a evitar danos causados pelo sobreaquecimento do dispositivo. Os orifícios de ventilação do dispositivo foram concebidos para dissipar o calor e assegurar que o mesmo funciona normalmente. Não bloqueie esses orifícios de ventilação.

- Não coloque este dispositivo junto a fontes de calor ou em locais com temperaturas elevadas. Evite colocar o dispositivo sob luz solar directa.

- Não coloque este dispositivo junto a locais molhados ou com humidade. Não derrame líquidos sobre o dispositivo.

- Por favor siga atentamente as instruções do manual / guia de instalação rápida para conectar o dispositivo ao seu PC ou a qualquer outro dispositivo electrónico. Atenção que qualquer tipo de ligação inválida pode originar risco de choque eléctrico ou de incêndio.

- Não coloque este dispositivo numa superfície ou suporte instáveis.

About This Guide

Purpose

This guide details the hardware features of the switch, including the physical and performance-related characteristics, and how to install the switch.

Audience

The guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).

Conventions

The following conventions are used throughout this guide to show information:

Note: Emphasizes important information or calls your attention to related features or instructions.

Caution: Alerts you to a potential hazard that could cause loss of data, or damage the system or equipment.

Warning: Alerts you to a potential hazard that could cause personal injury.

Revision History

This section summarizes the changes in each revision of this guide.

November 2012 Revision

This is the second revision of this guide. It includes the following changes:

- Update Compliances section.

April 2012 Revision

This is the first revision of this guide.

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1 INTRODUCTION

OVERVIEW

The EZ Switch 10/100 SMCFS1601P PoE switch provides 16 10/100 Mbps auto-negotiating RJ-45 ports. Each port on the switch support auto MDI/MDI-X, which eliminates the need for crossover cables or uplink ports. The switch is plug-and-play; any port can be connected to a server, a hub, or a switch, using straight-through or crossover cable.

FEATURES

- Complies with IEEE 802.3, IEEE 802.3u standards
- 16 10/100 Mbps auto-negotiating RJ-45 ports supporting Auto-MDI/MDIX
- Supports PoE power up to 30W for each PoE port
- PoE total power budget 200W for all PoE ports
- Supports IEEE 802.3x flow control for full-duplex mode and backpressure for half-duplex mode
- LED indicators for monitoring power, link, activity
- Rack-mountable steel case
- Support for IEEE 802.3az Energy-Efficient Ethernet, which can save up to 56% of power consumption
- Support for IEEE 802.1p QoS

POE FEATURES

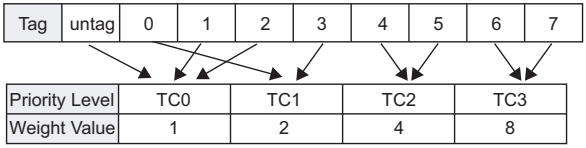
The SMCFS1601P can provide up to 30 Watts of power to attached devices, such as VoIP phones, wireless access points, surveillance cameras, etc, all over existing Cat. 5 cables. The switch can deliver up to 30 Watts on 8 ports, or 15.4 Watts on 16 ports. This eliminates the need for individual power sources for devices in the network, saving on costs for power cables and avoiding power outlet availability issues.

IEEE 802.1P QOS

The SMCFS1601P switch supports 802.1p priority queuing Quality of Service, which is an implementation of the IEEE 802.1p standard. With the 802.1p QoS function, network traffic that requires high priority, such as VoIP (Voice-over Internet Protocol), web browsing applications or video conferencing, can be forwarded before other traffic. The switch has separate hardware queues for each physical port, when packets are received with an 802.1p priority tag, they are sent to the appropriate output queue.

The illustration below shows how 802.1p priority queuing is implemented on the switches.

Figure 1: Mapping QoS on the Switch



There are four priority levels labeled TC0, TC1, TC2 and TC3. The untagged packets and the eight IEEE 802.1p priority tags (defined by the standard) are mapped to the four priority queues on the switch. TC3 has the highest priority of the four priority queues while TC0 has the lowest priority. The untagged packets and eight priority tags, specified in IEEE 802.1p, are mapped to the switch's priority tags as follows:

- Untagged packets, and packets with priority tag 1 and 2 are assigned to the switch's TC0 level queue.
- Packets with priority tag 0 and 3 are assigned to the switch's TC1 level queue.

- Packets with priority tag 4 and 5 are assigned to the switch's TC2 level queue.
- Packets with priority tag 6 and 7 are assigned to the switch's TC3 level queue.

The SMCFS1601P switch uses Weighted Robin Round (WRR) for scheduling. The WRR queue-scheduling algorithm schedules all the queues in turn with every queue assured a certain service time. For both WFQ and WRR mode, the default weight values of TC0, TC1, TC2 and TC3 are 1:2:4:8.

2 HARDWARE DESCRIPTION

This chapter describes the front panel, rear panel, and LED indicators of the switch.

FRONT PANEL

The front panel of SMCFS1601P consists of switch LED indicators, and 16 10/100 Mbps RJ-45 ports.

Figure 2: SMCFS1601P Switch Front Panel

PORT AND SYSTEM STATUS LEDS

This switch includes a display panel for key system and port indications that simplify installation and network troubleshooting. The LEDs, which are located on the front panel, are described in the following table.

Table 1: System and Port Status LEDs

LED	Condition	Status
PWR	On Green	The internal power supply is operating normally.
	Off	The unit has no power connected.
LiK/ACT	On	Port has established a valid network connection.
	Flashing Green	Flashing indicates activity.
	Off	There is no valid link on the port.
PoE In Use	On Green	A PoE device is connected.
	Off	No PoE device connected.

RJ-45 PORTS

The switch contains 16 100BASE-TX RJ-45 ports. All ports support automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs or servers, or to other switches or hubs.

Each of these ports support auto-negotiation, so the optimum transmission mode (half or full duplex), and data rate (10 or 100 Mbps) is selected automatically.

Each port also supports IEEE 802.3x auto-negotiation of flow control, so the switch can automatically prevent port buffers from becoming saturated.

REAR PANEL

The rear panel of the switch features a power socket.

Figure 3: SMCFS1601P Switch Rear Panel

AC POWER SOCKET

Connect the female connector of the power cord here, and the male connector to the AC power outlet. Make sure the voltage of the power supply meets the requirement of the input voltage.

3 INSTALLING THE SWITCH

Before installing the switch, verify that you have all the items listed under "Package Contents." If any of the items are missing or damaged, contact your local SMC distributor. Also be sure you have all the necessary tools and cabling before installing the switch.

PACKAGE CONTENTS

The following contents should be found in your package:

- One SMCFS1601P Switch
- One power cord
- This User Guide
- Rackmount Kit
- Four rubber foot pads
- SMC Warranty Card

PRECAUTIONS

To ensure a long-term and stable performance of the switch, pay attention to the following before installation.

SAFETY REQUIREMENTS

- Before cleaning the switch, disconnect the power supply. Do not clean the switch using a wet cloth, and never use any other liquid for cleaning.

- Take waterproof measures during storage, transportation and operation of the equipment.
- Use only the power cord provided with the switch.
- Make sure the voltage of the power supply meets the requirement of the input voltage of the switch.
- Do not push any objects into the openings of the switch.
- Ensure the vent holes are well ventilated and unblocked.
- Do not open or remove the cover of the switch.

LOCATION REQUIREMENTS

When you choose a location for the switch, follow these guidelines:

- Install the switch on a flat and stable surface that can support the entire weight of the switch with all fittings.
- Locate the switch far from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
- To ensure adequate air flow around the switch. At least 10 cm (4 inches) of space at the front and rear of the switch is needed for ventilation.
- Make sure that the switch will be accessible and that the cables can be easily connected.
- Position the switch away from water and moisture sources, be sure to provide an acceptable temperature and humidity operating environment.

INSTALLATION

This switch can be either installed in a standard 19-inch mountable rack or located on a desktop.

CAUTION: Please unplug the power cord before installing or removing the switch.

DESKTOP INSTALLATION

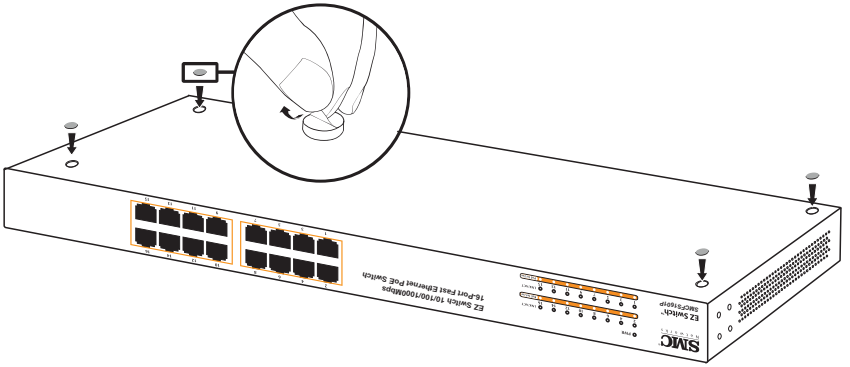
To install the switch on the desktop, follow these steps:

1. Set the switch on a flat surface strong enough to support the entire weight of the switch with all fittings.

2. Remove the adhesive backing papers from the rubber feet.

3. Turn the switch over and attach the supplied rubber feet to the recessed areas on the bottom at each corner of the switch.

Figure 4: Attaching Rubber Feet



4. Upturn the switch and set in the desired location, making sure there is enough ventilation space on all sides for proper air flow

5. Connect the switch to a power source with the provided power cord. See "Powering On" on page 28.

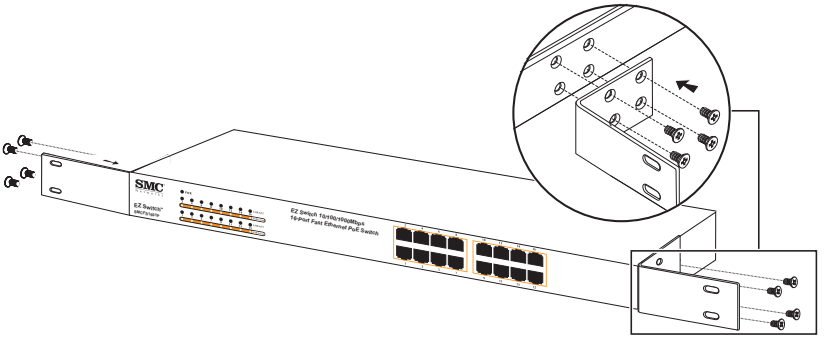
CAUTION: Avoid placing anything heavy on the switch.

RACK INSTALLATION

To install the switch in an EIA standard-sized, 19-inch rack, follow the instructions described below:

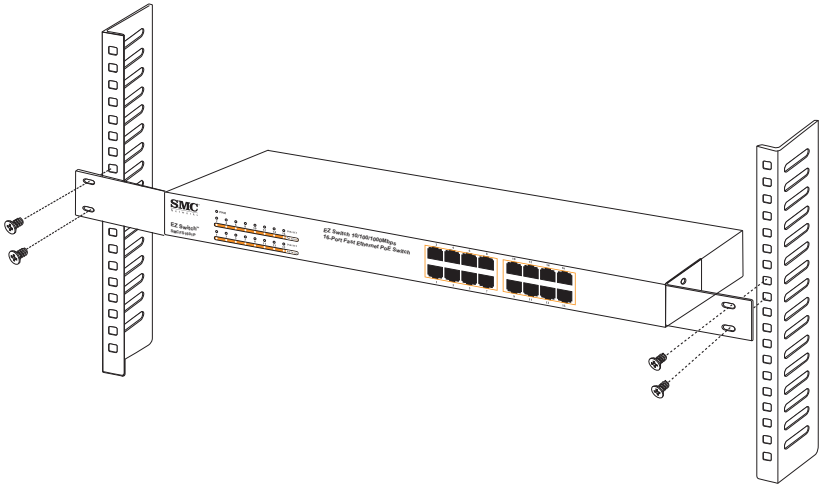
1. Secure the supplied rack-mounting brackets to each side of the switch with supplied screws, as illustrated in the following figure.

Figure 5: Attaching Brackets



2. Use suitable screws (not provided) to secure the brackets to the rack, as illustrated in the following figure.

Figure 6: Mounting the Switch



3. Connect the switch to a power source with the provided power cord. See "Powering On" on page 28.

CONNECTING TO GROUND

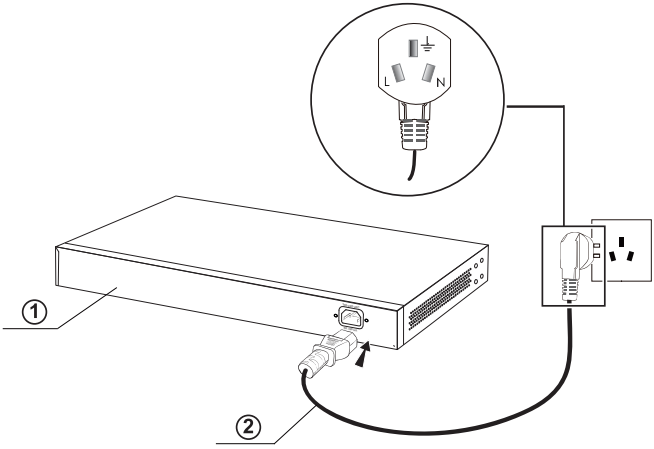
Connecting the switch to ground protects against lightning over-voltage and over-current of the switch, which is also a necessary measure to protect the body from electric shock.

In different environments, the switch may be grounded differently. The following instructs you to connect the switch to ground through the power cord. Connect the switch to ground in the best way according to your specific operating environment.

CONNECTING TO GROUND THROUGH THE POWER SUPPLY

If the switch is installed in a normal environment, it can be grounded through the PE (Protective Earth) wire of the AC power supply, as shown in the following figure.

Figure 7: Connecting to Ground Through the Power Supply



① Switch (Rear Panel) ② AC Power Cord (with PE cable)

NOTE: The figure illustrates the application and principle. The power plug in the package and the socket in your situation will comply with regulations in your country, so they may differ from the figure above.

NOTE: If you intend to connect the switch to ground through the PE (Protective Earth) wire of the AC power cord, make sure the PE wire in the electrical outlet is well grounded in advance.

POWERING ON

The SMCFS1601P switch is powered by connecting to an AC power supply using a power cord. When powering on the switch, it automatically initializes and the LED indicators respond as follows:

1. All of the LED indicators flash momentarily for one second, which represents a resetting of the system.

2. The Power LED indicator turns on green.

CONNECTING NETWORK DEVICES

This switch is designed to be connected to 10, or 100 Mbps network cards in PCs and servers, as well as to other switches and hubs.

CABLING GUIDELINES

The RJ-45 ports on the switch support automatic MDI/MDI-X pinout configuration, so you can use standard straight-through twisted-pair cables to connect to any other network device (PCs, servers, switches, routers, or hubs).

Each device requires an unshielded twisted-pair (UTP) cable with RJ-45 connectors at both ends. Use Category 5 or better for 100BASE-TX connections, and Category 3 or better for 10BASE-T connections.

CONNECTING TO PCS, SERVERS, HUBS AND SWITCHES

1. Attach one end of a twisted-pair cable segment to the device's RJ-45 connector.

2. Attach the other end of the cable segment to an available port on the switch.

   Make sure each twisted pair cable does not exceed 100 meters (328 ft) in length.

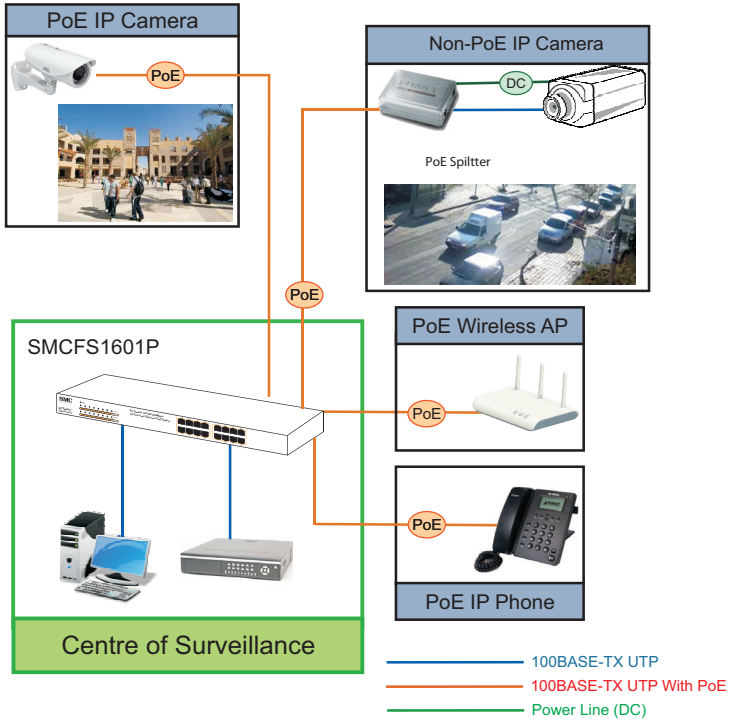
3. As each connection is made, the relevant port LED (on the switch) corresponding to each port will turn on green to indicate that the connection is valid.

4 PRODUCT APPLICATION

DEPARTMENT/WORKGROUP POE SWITCH

The SMCFS1601P provides 16 PoE port interfaces and can build a centrally-controlled IP phone system, IP camera system, or wireless AP group for the enterprise. Cameras can be installed around the company or campus for surveillance needs, or wireless APs can build a wireless roaming environment in the office. Without being limited by power-socket availability, the switch makes installation of cameras or wireless APs easy and efficient.

Figure 8: Applications



POWER OVER ETHERNET POWERED DEVICES

Table 2: Power over Ethernet Powered Devices

3~5 Watts	**Voice over IP phones** Enterprises can install PoE VoIP phones, ATA and other Ethernet/ non-Ethernet end-devices connected to a central location where an un-interruptible power supply and power control system are installed.
6~12 Watts	**Wireless LAN Access Points** Museums, sightseeing spots, airports, hotels, campuses, factories, and warehouses can install access points anywhere without limitations.
10~12 Watts	**IP Surveillance** Enterprises, museums, campuses, hospitals, and banks can install IP cameras without any location limits - no need for an electrician to install AC sockets.
3~12 Watts	**PoE Splitter** A PoE splitter splits the PoE 48 VDC from the Ethernet cable into a 5/12V DC power output. It frees device deployment from the restrictions of power outlet location, which eliminates the costs for additional AC wiring and reduces installation time.

A TROUBLESHOOTING

DIAGNOSING SWITCH INDICATORS

THE POWER LED IS OFF

- Make sure the AC power cord is connected to the switch and power source properly.
- Make sure the power source is ON.

THE LINK/ACT LED IS OFF WHEN A DEVICE IS CONNECTED TO THE CORRESPONDING PORT

- Make sure that the cable connectors are firmly plugged into the switch and the device.
- Make sure the connected device is turned on and working properly.
- The cable must be less than 100 meters long (328 feet).
- Check the port on the attached device and cable connections for possible defects. Replace the defective cable if necessary.

POWER AND COOLING PROBLEMS

If the power indicator does not turn on when the power cord is plugged in, you may have a problem with the power outlet, power cord, or internal power supply. However, if the unit powers off after running for a while, check for loose power connections, power losses or surges at the power outlet. If you still cannot isolate the problem, the internal power supply may be defective.

INSTALLATION

Verify that all system components have been properly installed. If one or more components appear to be malfunctioning (such as the power cord or network cabling), test them in an alternate environment where you are sure that all the other components are functioning properly.

B SPECIFICATIONS

PHYSICAL CHARACTERISTICS

STANDARDS
IEEE 802.3 10BASE-T
IEEE 802.3u 100BASE-TX

TOPOLOGY
Star

PROTOCOL
CSMA/CD

DATA TRANSFER RATE
Ethernet: 10 Mbps (half duplex)
Ethernet: 20 Mbps (full duplex)
Fast Ethernet: 100 Mbps (half duplex)
Fast Ethernet: 200 Mbps (full duplex)

NETWORK MEDIA (CABLE)
10BASE-T: UTP Category 3, 4, 5 cable (maximum 100 m)
EIA/TIA-568 100 STP (maximum 100 m)
100BASE-TX: UTP Category 5, 5e cable (maximum 100 m)
EIA/TIA-568 100 STP (maximum 100 m)

NUMBER OF PORTS
16 10/100 Mbps auto-negotiating RJ-45 ports

LED INDICATORS
System: PWR
Ports: LNK/ACT, PoE In Use

TRANSFER METHOD
Store-and-Forward

MAC ADDRESS LEARNING
Automatically learning, automatically aging

FRAME FILTER RATE
10Mbps: 14880pps
100Mbps: 148800pps

FRAME FORWARD RATE
10Mbps: 14880pps
100Mbps: 148800pps

SWITCHING DATABASE
8K MAC address entries

BUFFER MEMORY
256 Kbytes/device

SWITCHING CAPACITY
3.2 Gbps

THROUGHOUT
2.4 Mpps

PoE Features
Supports IEEE 802.3af/at
Supported Power to PD: 30W
Total PoE Budget: 200W (Total Power: 240W)
PoE Ports: 16 (Ports 1-16)

Power Supply
AC input : 100~240V, 50/60Hz
DC output: DC 50V, 4.5A

Dimensions
44.2 x 20.8 x 4.4 cm (17.4 x 8.2 x 1.73 in.)

Weight
2.51 Kg (5.54 lbs)

Feature
Jumbo Frames: 2024 Bytes

Temperature
Operating: 0 to 40 °C (32 to 104 °F)
Storage: -40 to 70 °C (-40 to 158 °F)

Humidity
Operating: 10% to 90% (non-condensing)
Storage: 10% to 90% (non-condensing)

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繁體中文：產品技術支援與服務請上 www.smcnetworks.com.tw

ไทย: สามารถหาข้อมูลทางด้านเทคนิคได้ที่ **www.smc-asis.com**

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